

INPLASY PROTOCOL

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Review Stage at time of this submission: Formal screening of search results against eligibility criteria.

Conflicts of interest:
None declared.

INTRODUCTION

Review question / Objective: This review is aimed to investigate the effectiveness of an alternative learning approach implemented on clinical placement during the COVID-19 pandemic over traditional clinical placement among healthcare learners in any healthcare education programs.

A systematic review of the effectiveness of alternative learning for clinical placement in health professions education during the COVID-19 pandemic

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Review question / Objective: This review is aimed to investigate the effectiveness of an alternative learning approach implemented on clinical placement during the COVID-19 pandemic over traditional clinical placement among healthcare learners in any healthcare education programs.
Condition being studied: This study is planned to observe the competency of the learners, whether on knowledge, skills, or affective, due to attending alternative learning for clinical placement, whether it is objectively or subjectively measured.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 May 2023 and was last updated on 30 May 2023 (registration number INPLASY202350110).

Rationale: Although the COVID-19 pandemic has impeded clinical placement and real-world practise, but has also spurred innovation in practical and clinical learning. Clinical placement or fieldwork is considered fundamental for learning opportunities in health professions programs. However, during the COVID-19 pandemic, many of the clinical placements were substituted with alternative learning utilizing technology such as virtual reality,

telehealth systems, blended-learning, or other pedagogical approaches such as student-centred learning, active and interactive learning, case-based learning, team-based learning, and independent learning. Although the replacement of some amount of clinical placement is supported by evidence, permissible, and recommended by several literature and professional organizations, however, there is a strong sentiment that alternative learning is inadequate and inferior to traditional clinical placement as it does not provide real-world experience. The graduates of the pandemic period are worried about being less competent, and there is a suggestion that the current students complement their clinical experience with additional placement, which is a burden. Therefore, it is important to investigate whether the learners have gained satisfactory competency from the alternative learning and if there is a requirement to supplement their learning with additional placement.

Condition being studied: This study is planned to observe the competency of the learners, whether on knowledge, skills, or affective, due to attending alternative learning for clinical placement, whether it is objectively or subjectively measured.

METHODS

Search strategy: Searching on Scopus utilizing the following keywords and command operations: (TITLE-ABS-KEY ("medic*" OR "health" OR "health science*" OR "nurse" OR "nursing" OR "nurses" OR "biomedic*" OR "pharma*" OR "nutrition" OR "dietetic*" OR "dental" OR "dentist*" OR "allied health" OR "occupational health" OR "environmental health" OR "occupational therap*" OR "physiotherap*" OR "physical therap*" OR "speech therap*" OR "speech language phatolog*" OR "occupational safety" OR psycholog* OR "audiolog*" OR forensic* OR "radiotherap*") AND TITLE-ABS-KEY (covid-19 OR "Novel coronavirus" OR "2019-nCoV" OR "SARS-CoV-2" OR "wuhan coronavirus") AND TITLE-ABS-KEY ("clinical teaching*" OR "clinical

learning*" OR "clinical placement*" OR "clinical fieldwork*" OR "clinical practical*" OR "clinical practicum" OR "clinical practice placement*" OR "clinical rotation" OR "clinical intern*") AND TITLE-ABS-KEY (student* OR "undergrad*" OR "universit*" OR "college" OR "higher education*" OR "tertiary education*" OR "trainee*" OR "resident" OR "residents")) AND PUBYEAR > 2019 AND PUBYEAR > 2019 While searching on EBSCOHost for the following databases, Academic Search Complete, CINAHL Plus with Full Text, Cochrane Central Register of Controlled Trials, Cochrane Clinical Answers, Cochrane Database of Systematic Reviews, Cochrane Methodology Register, Health Business Elite, MEDLINE Complete, Psychology and Behavioral Sciences Collection, SPORTDiscus with Full Text, utilizing the following keywords and command operations: AB ("medic*" OR "health" OR "health science*" OR "nurse" OR "nursing" OR "nurses" OR "biomedic*" OR "pharma*" OR "nutrition" OR "dietetic*" OR "dental" OR "dentist*" OR "allied health" OR "occupational health" OR "environmental health" OR "occupational therap*" OR "physiotherap*" OR "physical therap*" OR "speech therap*" OR "speech language phatolog*" OR "occupational safety" OR psycholog* OR "audiolog*" OR forensic* OR "radiotherap*") AND AB ("covid-19" OR "Novel coronavirus" OR "2019-nCoV" OR "SARS-CoV-2" OR "wuhan coronavirus") AND AB ("clinical teaching" OR "clinical learning" OR "clinical placement" OR "clinical fieldwork" OR "clinical practical*" OR "clinical practicum" OR "clinical practice placement*" OR "clinical rotation" OR "clinical intern*") AND AB (student* OR "undergrad*" OR "universit*" OR "college" OR "higher education*" OR "tertiary education*" OR "trainee*" OR "resident" OR "residents").

Participant or population: Health profession students.

Intervention: Alternative learning for clinical placement.

Comparator: Traditional or conventional clinical placement.

Study designs to be included: Original study with quantitative findings.

Eligibility criteria: Inclusion criteria: (i) original study investigated about the effectiveness of alternative clinical placement due to COVID-19 situation, and (ii) the study population is undergraduate or entry-level healthcare professions education academic program. Exclusion criteria: (i) no full text available, (ii) the full text is non-English, (iii) gray literature (e.g., magazine, book, thesis, dissertation), (iv) non-research article (e.g., letter to editor, short communication), (v) not a primary study (e.g., review, audit study, protocol description), (vi) absent of comparison aspect or control population/group on traditional clinical placement learning, (vii) the data does not consist quantitative analysis (e.g., qualitative-only study).

Information sources: The electronic databases using Scopus and EBSCOHost search is performed.

Main outcome(s): Quantitative data from learners' subjective outcomes such as perception, experience, satisfaction, and opinion, either using a standardized assessment tool or researcher-developed questionnaire, and objective outcomes such as examination scores and test marks.

Additional outcome(s): Description of the intervention, such as the alternative learning for the clinical placement, including its procedure, as well as the description of control group or comparison cohort information, such as the description of the traditional or conventional clinical placement. Other information collected is the background of the population, such as from which healthcare discipline and from which country.

Data management: The found studies are imported into the Research Manager software, such as EndNotes or Mendeley. The screening process begins with title

screening, followed by abstracts and full texts against the pre-defined criteria. The screening process is recorded in an Excel document and illustrated using the PRISMA flowchart. Each included study will be extracted for relevant information into a matrix table in both Excel and Word documents.

Quality assessment / Risk of bias analysis: Each included study is evaluated for its quality using the Medical Education Research Study Quality Instrument (MERSQI) tool.

Strategy of data synthesis: Each included article will be extracted for information in a matrix table, including the author, objective of the study, population investigated, country conducted, procedure on alternative clinical learning and traditional clinical placement, and the selected finding relevant to the review objective. A narrative synthesis will summarize the information from the finding studies on the effectiveness of alternative learning from the most robust article (e.g., higher quality study design, using more credible outcome measures) to the least robust article. The narrative summary will be divided into objective outcomes (e.g., examination results) and subjective outcomes (e.g., perception, self-administered questionnaire).

Subgroup analysis: Not plan.

Sensitivity analysis: Not plan.

Language restriction: Only full text in English will be included.

Country(ies) involved: Malaysia.

Keywords: Health professions education; Medical education; clinical placement; technology-based learning; Future education; Learning approaches; Internet of Things; COVID-19.

Dissemination plans: This study is planned to be presented at professional and academic conferences and published in an academic peer-reviewed journal.

Contributions of each author:

Author 1 - Muhammad Hibatullah Romli - MHR leads the project and has a role in initiating the original idea, planning for the review, conducting the search, conducting the screening process, extracting the data into a matrix table, conducting the quality analysis, synthesizing the data, conducting an advanced analysis, writing the manuscript, and finalizing the manuscript.

Author 2 - Farahiyah Wan Yunus - FWY involves in quality control by involving in the independent screening process, reviewing and auditing the extracted data in the matrix table and quality analysis, synthesizing the data, providing the critical input, writing the manuscript, and finalizing the manuscript.

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